

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Kenneth W. Wood, et al.

Serial No.:

Group No.:

Filed:

Examiner:

Entitled:

**Plus End-directed Microtubule Motor Required
For Chromosome Congression**

INFORMATION DISCLOSURE STATEMENT

Box Patent Application

Commissioner for Patents

P.O. Box 1450

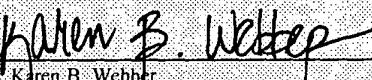
Alexandria, VA 22313-1450

CERTIFICATION UNDER 37 C.F.R. § 1.10

I hereby certify that this New Application Transmittal and the documents referred to as enclosed therein are being deposited with the U.S. Postal Service on this date August 21, 2003 in an envelope as "Express Mail Post Office to Addressee". Mailing Label Number EV-329-476 678 US addressed to Box Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Dated August 27, 2003

By:


Karen B. Webber

Sir or Madam:

The citations listed below, may be material to the examination of the above-identified application, and are therefore submitted in compliance with the duty of disclosure defined in 37 C.F.R. §§ 1.56 and 1.97. The Examiner is requested to make these citations of official record in this application.

Applicants note that the present application is a Divisional of U.S. Patent Appln. Serial No. 09/150,867, filed on 09/10/1998. In accordance with 37 C.F.R. § 1.98(d), copies of the citations listed as references AB to AO on the enclosed PTO-1449 are **not** provided since they were previously submitted to the Office in the priority U.S. Patent Appln. Serial No. 09/150,867, filed on 09/10/1998 (our file UCSD-04734), which is relied upon for an earlier filing date under U.S.C. § 120. In particular, citations listed as references AB to AO were mailed to the Office on 12/23/1998, in the prior U.S. Patent Appln. Serial No. 09/150,867.

The following citations are referred to in the body of the specification:

- Yen, Tim J. et al. (1992) "CENP-E is a putative karyopherin motor that accumulates just before mitosis", *Nature* 359:536-539;

- Rattner, Jerome B., et al. (1996) "The Centromere Kinesin-Like Protein, CENP-E", *Arthritis & Rheumatism*, 39(8): 1355-1361;
- Yen, Tim J., et al. (1991) "CENP-E, a novel human centromere-associated protein required for progression from metaphase to anaphase", *The EMBO Journal*, 10(5): 1245-1254;
- Liao, Hong, et al. (1994) "Mitotic Regulation of Microtubule Cross-Linking Activity of CENP-E Kinetochore Protein", *Science* 265:394-398;
- Thrower, Douglas A., et al. (1995) "Mitotic HeLa cells contain a CENP-E associated minus end-directed microtubule motor", *The EMBO Journal*, 14(5):918-926;
- Sakowicz, Roman, et al. (1998) "A Marine Natural Product Inhibitor of Kinesin Motors", *Science* 280:292-295;
- Stewart, Russell J., et al. (1993) "Direction of microtubule movement is an intrinsic property of the motor domains of kinesin heavy chain and *Drosophila* ncd protein", *Proc. Natl. Acad. Sci. USA*, 90:5209-5213;
- Kodama, Takao, et al. (1986) "The Initial Phosphate Burst in ATP Hydrolysis by Myosin and Subfragment-1 as Studied by a Modified Malachite Green Method for Determination of Inorganic Phosphate", *J. Biochem.*, 99:1465-1472;
- Lombillo, Vivian A., et al. (1995) "Antibodies to the Kinesin Motor Domain and CENP-E Inhibit Microtubule Depolymerization-dependent Motion of Chromosomes in Vitro", *The Journal of Cell Biology*, 128(1,2):107-115;
- Brown, Kevin D., et al. (1994) "Cyclin-like Accumulation and Loss of the Putative Kinetochore Motor CENP-E Results from Coupling Continuous Synthesis with Specific Degradation at the End of Mitosis", *The Journal of Cell Biology*, 125(6):1303-1312;
- Hyman, Anthony A., et al. (1991) "Two different microtubule-based motor activities with opposite polarities in kinetochores", *Nature*, 351:206-211;
- Mitchison, T.J., et al. (1985) "Properties of the Kinetochore in Vitro. II. Microtubule Capture and ATP-dependent Translocation", *The Journal of Cell Biology*, 101:766-777;

- Duesbery, Nick S., et al. (1997) "CENP-E is an essential kinetochore motor in maturing oocytes and is masked during Mos-dependent, cell cycle arrest at metaphase II", *Proc. Natl. Acad. Sci USA*, 94:9165-9170;
- and
- Wood, Kenneth W., et al. (1997) "CENP-E Is a Plus End-Directed Kinetochore Motor Required for Metaphase Chromosome Alignment", *Cell*, 91:357-366.

Applicants have become aware of the following citations which may be material to the examination of this application.

The following reference was cited in the parent Application Serial No. 09/150,867 in an Office Action mailed Nov. 8, 1999. A copy is **not** provided in accordance with 37 C.F.R. § 1.98(d).

- Database Swiss-Prot37, Accession No. Q02224.

The following references (copies enclosed) were cited in the International Search Report, dated Dec. 28, 1998, of corresponding PCT International Application No. PCT/US98/19231.

- Gordon *et al.* "Overexpression or the Kinetochore Localization Domain of CENP-E Causes Two Distinct Dominant Negative Phenotypes," Abstract, *Mol. Biol. Cell*, December 1996, Vol. 7 Supplement, pg 565a;
- Wood *et al.* "Characterization of a Xenopus Homologue of Centromere-Associated Protein-E (CENP-E)," Abstract, *Mol. Biol. Cell*. November 1995, Vol. 6 Supplement, pg 361a;
- Wood *et al.* "CENP-E is a Plus End-Directed Kinetochore Motor Required for Metaphase Chromosome Alignment," *Cell* 91:357-366; and
- Yen *et al.* "CENP-E is a Putative Kinetochore Motor that Accumulates Just Before Mitosis," *Nature* 359:536-539.

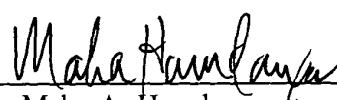
The following reference (copy enclosed) was cited in corresponding European application Serial No. 98947039.8 in an Office Communication dated July 8, 2003.

- Yao *et al.* (1997) "The Microtubule-dependent Motor Centromere-Associated Protein E (CENP-E) is an Integral Component of Kinetochore Corona Fibers that Link Centromeres to Spindle Microtubules," *J. Cell Biol.* 139:435-447.

This Information Disclosure Statement under 37 C.F.R. §§ 1.56 and 1.97 is not to be construed as a representation that a search has been made, that additional information material to the examination of this application does not exist, or that any one or more of these citations constitutes prior art.

Signed on behalf of:

Dated: August 27, 2003



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415/904-6500

FORM PTO-1449 (Modified) LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Attorney Docket No.: UCSD-07982 Applicant: Kenneth W. Wood, et al. Filing Date: 08/27/2003	Application No.: Group:			
Reference Designation		U.S. PATENT DOCUMENTS				
Examiner Initial	Document No.	Date	Name	Class	Sub-class	Filing Date (If Appropriate)
AA						
FOREIGN PATENT DOCUMENTS						
	Document No.	Date	Country	Class	Sub-class	Translation (Yes/No)
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)						
AB	Yen, Tim J. et al. (1992) "CENP-E is a putative kinetochore motor that accumulates just before mitosis", <i>Nature</i> 359:536-539					
AC	Rattner, Jerome B., et al. (1996) "The Centromere Kinesin-Like Protein, CENP-E", <i>Arthritis & Rheumatism</i> , 39(8):1355-1361					
AD	Yen, Tim J., et al. (1991) "CENP-E, a novel human centromere-associated protein required for progression from metaphase to anaphase", <i>The EMBO Journal</i> , 10(5):1245-1254					
AE	Liao, Hong, et al. (1994) "Mitotic Regulation of Microtubule Cross-Linking Activity of CENP-E Kinetochore Protein", <i>Science</i> 265:394-398					
AF	Thrower, Douglas A., et al. (1995) "Mitotic HeLa cells contain a CENP-E associated minus end-directed microtubule motor", <i>The EMBO Journal</i> , 14(5):918-926					
AG	Sakowicz, Roman, et al. (1998) "A Marine Natural Product Inhibitor of Kinesin Motors", <i>Science</i> 280:292-295					
AH	Stewart, Russell J., et al. (1993) "Direction of microtubule movement is an intrinsic property of the motor domains of kinesin heavy chain and <i>Drosophila</i> ncd protein", <i>Proc. Natl. Acad. Sci. USA</i> , 90:5209-5213					
AI	Kodama, Takao, et al. (1986) "The Initial Phosphate Burst in ATP Hydrolysis by Myosin and Subfragment-1 as Studied by a Modified Malachite Green Method for Determination of Inorganic Phosphate", <i>J. Biochem.</i> , 99:1465-1472					
AJ	Lombillo, Vivian A., et al. (1995) "Antibodies to the Kinesin Motor Domain and CENP-E Inhibit Microtubule Depolymerization-dependent Motion of Chromosomes in Vitro", <i>The Journal of Cell Biology</i> , 128(1,2):107-115					
AK	Brown, Kevin D., et al. (1994) "Cyclin-like Accumulation and Loss of the Putative Kinetochore Motor CENP-E Results from Coupling Continuous Synthesis with Specific Degradation at the End of Mitosis", <i>The Journal of Cell Biology</i> , 125(6):1303-1312					
AL	Hyman, Anthony A., et al. (1991) "Two different microtubule-based motor activities with opposite polarities in kinetochores", <i>Nature</i> , 351:206-211					
AM	Mitchison, T.J., et al. (1985) "Properties of the Kinetochore in Vitro. II. Microtubule Capture and ATP-dependent Translocation", <i>The Journal of Cell Biology</i> , 101:766-777					
AN	Duesbery, Nick S., et al. (1997) "CENP-E is an essential kinetochore motor in maturing oocytes and is masked during Mos-dependent, cell cycle arrest at metaphase II", <i>Proc. Natl. Acad. Sci. USA</i> , 94:9165-9170					
AO	Wood, Kenneth W., et al. (1997) "CENP-E Is a Plus End-Directed Kinetochore Motor Required for Metaphase Chromosome Alignment", <i>Cell</i> , 91:357-366					
EXAMINER		DATE CONSIDERED				

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 (Modified)		U.S. Department of Commerce Patent and Trademark Office	Attorney Docket No.: UCSD-07982	Serial No.:
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use Several Sheets If Necessary) (37 CFR § 1.98(b))		Applicant: Kenneth W. Wood		
		Filing Date: 08/27/2003	Group Art Unit:	
OTHER DOCUMENTS (Including Author, Title, Date, Relevant Pages, Place of Publication)				
	AP	Gordon <i>et al.</i> "Overexpression or the Kinetochore Localization Domain of CENP-E Causes Two Distinct Dominant Negative Phenotypes," Abstract, Mol. Biol. Cell, December 1996, Vol. 7 Supplement, pg 565a		
	AQ	Wood <i>et al.</i> "Characterization of a Xenopus Homologue of Centromere-Associated Protein-E (CENP-E)," Abstract, Mol. Biol. Cell, November 1995, Vol. 6 Supplement, pg 361a		
	AR	Wood <i>et al.</i> "CENP-E is a Plus End-Directed Kinetochore Motor Required for Metaphase Chromosome Alignment," Cell 91:357-366		
	AS	Yen <i>et al.</i> "CENP-E is a Putative Kinetochore Motor that Accumulates Just Before Mitosis," Nature 359:536-539		
	AT	Yao <i>et al.</i> (1997) "The Microtubule-dependent Motor Centromere-Associated Protein E (CENP-E) is an Integral Component of Kinetochore Corona Fibers that Link Centromeres to Spindle Microtubules," J. Cell Biol. 139:435-447		
Examiner:		Date Considered:		
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